DIMENSIONS:

DIMENSIONS ARE IN MILIMETRES, UNLESS OTHERWISE NOTED LEVELS ARE IN METERS RELATIVE TO MEDITERRANEAN MEAN ANGLES ARE IN DEGREES (0-360°)

# CODES AND REQUIREMENTS: - NTC 08: DM 14.1.2008 TECHNICAL CONSTRUCTION STANDARD - CG1000-PRGDPGE-00000000000-02A-DESIGN BASIS-STRUCTURAL

STRUCTURAL CONCRETE:
ALL STRUCTURAL CONCRETE TO BE IN ACCORDANCE

1:2001

	-									
I	H WATER.	Y SATURATED WITH 5 TO 10mm	DEAPTH OF 5 TO	SLURRY AND TO A DI	OF DUST AND MADE VISIBLE	LEANED, FREI	DINTS SHALL BE CLEANED, FREE COARSE AGGREGATES SHALL BE	CONSTRUCTION JOINTS THE COAR	CONSTRUC	CONSTRUCTION JOINTS
I	HOURS)	5% AFTER 72	NCY INDEX >75%	RETENTION EFFICENCY INDEX	WATER	CURING COMPOUND,	QF	(ALTERNATIVELY USE	14 DAYS (	MIN. CURING PERIOD
I				•	300kJ/kg CEMENT					MAX. HEATING IN ADIABATIC CONDITIONS AFTER 3 DAYS
ı					65°C					MAX. CONCRETE TEMPERATURE DURING HYDRATION
I	E CONTROL DOCUMENTED PATIO OF 0.9.	PERATUR ACTUAL ENGTH R	FOR PASED VSILE	INT THAT MEASURES E ANALYSIS TO BE E TENSILE STRESS/TEN	TO DOCUMEN ERS TO THE PTIES. MAX. TI	BE PERF INPUT F NCRETE	IALYSIS T CONCRET ENDANT)	URE/STRES E CRACK-F (TIME/AGE	TEMPERAT WILL ENSUR TRANSIENT	EARLY AGE CRACK REQUIREMENT & CONTROL
I	50	I	ı	ı	I	ı	50	50	50	NORMINAL COVER TO STAINLESS STEEL
ı	100	75	75	75	75	75	100	100	100	NORMINAL COVER TO CARBON STEEL
I			BUILD 492	70 NT	60 DAYS ACCORDING	m <sup>2</sup> /s AFTER	4×10-12 m <sup>2</sup> ,			MAX. CHLORIDE MIGRATION COEFFICIENT, Da
I			E USED	SHALL NOT BE	CHLORIDES	URES CONTAINING	ADMIXTURES			ADMIXTURES
I				1744-1	ACCORDING TO EN	0.2% A				MAX. ACID—SOLUBLE SULFATE CONTENT OF AGGREGATES
I			C1260	TO ASTM	DAYS ACCORDING	AFTER 14	0.10%			MAX. AGGREGATE EXPANSION (ALKALI/SILICA)
		12620	WITH EN	E IN ACCORDANCE	GRAVEL OR CRUSHED STONE		SAND, NATURAL	NATURAL		AGGREGATES
				BUTION NET	FROM PUBLIC SUPPLY DISTRIBUTION NET	FROM PUBL				WATER
I		REQUIREMENTS	/STRENGHT	THE DURABILTIY,	COMPLIANCE WITH T	DOCUMENT COMPLIANCE	OF MIXES TO	-TESTING	PRE-	CONCRETE COMPOSITION
I				CEMENT	T OF	4% SO				MAX. SULFATE CONTENT OF CONCRETE
I				CONCRETE	O PER m3	3kg EQUIV.				MAX. ALKALI CONTENT OF CONCRETE
ı	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	CHLORIDE CONTENT CLASS
-	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	MAX. W/C RATIO
-	360	360	360	340	340	320	360	360	360	MIN. CEMENT CONTENT IN kg/m3
I	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%	MAX. TOTAL ALKALI CONTENT OF CEMENT
				EN 197-1	N ACCORDANCE TO	CEM III/B IN				CEMENT
20mm	25mm*	25mm	25mm	32mm	38mm	50mm	38mm	38mm	38mm	MAX. AGGREGATE SIZE
-	S4/S5	S4/S5	S4/S5	S4/S5	S4/S5	S2/S3	S4/S5	S4/S5	S4/S5	CONSISTENCY CLASS
-	NO	NO	NO	NO	NO	NO	YES	YES	YES	STAINLESS STEEL OUTER REINFORCEMENT
XO	XC4+XS1	XC4+XS1	XC4+XS1	XC4+XS1	XC4+XS1	XC4+XS1	XC4+XS3	XC4+XS3	XC4+XS3	ENVIRONMENTAL CLASS
28 DAYS	28 DAYS	28 DAYS	28 DAYS	28 DAYS	60 DAYS	60 DAYS	60 DAYS	60 DAYS	60 DAYS	TIME TO DEVELOP NOMINAL STRENGTH
C12/15	C35/45	C40/50	C32/40	C45/55	C35/45	C30/37	C40/50	C30/37	C60/75	CONCRETE GRADE
8 BLINDING CONCRETE	9 DECK SLAB	8 PIERS	7 FOUNDATIONS	6 PREFAB. BEAM	ANCHOR ZONE/ SADDLE SUPPORT	MAIN PARTS	3 CONNECTING BEAM	2 REMANING PARTS	1 UPPER 6m	CONCRETE TYPE
		TERMINAL STRUCTURES	T. STH		ANCHOR BLOCKS		)NS	ER FOUNDATIONS	TOWER	

### 10mm FOR PREDALLES

**TOLERANCES** 

QF

CONCRETE

**DIMENSIONS** 

LIFE OF DIMENSIONAL DEVIATION	בוייטוטואבר ה	I VIA I OIV	מאלי י טררואויטר
OVERALL DIMENSION	ENSION		±25mm
CROSS-SECTIONAL	ONAL		±10mm
PERPENDICULARITY	ARITY		8%.
INCLINATION			3%.
LOCAL VARIAT	710NS (1m	LOCAL VARIATIONS (1m MEASURING LENGHT)	8mm
I OCAL VARIAT	70NS (2m	IOCAL VARIATIONS (2m MEASLIBING LENGHT)	12mm

# COVER

NOMINAL COVER TO REINFORCEMENT ACCORDING TO THE ABOVE THE REINFORCEMENT SHALL BE PLACED WITH A TOLERANCE OF CONCRETE SPACERS SHALL HAVE EQUAL OR BETTER DURABILITY CONCRETE TABLE FOR STRUCT -5/+10mm THAN STRUCTURAL

CHAMFER

ALL OUTWARD FACING CONCRETE EDGES HAVE CHAMFER

GROUT FOR GROUTING OF LEVELING F SELF LEVELLING HIGH STRENGTH NON-SHRINK GROUT FLANGES: UT LIKE PAGEL

# BALLAST FILL THE FOLLOWING MINIMUM UNIT WEIGHTS

BΕ

# WATER

THE UNIT WEIGHT OF

ABBRIVATIONS

CENTRE LINE
R RADIUS

DIAMETER THEORETICAL CABEL INTERPRETICAL CABEL INTERPRE

REINFORCEMENT: L=7000

- LENGTH OF BAR
- SPACING OF BARS
- DIAMETER OF BARS
- NUMBER OF BARS
- BAR NUMBER

CARBON STEEL SHALL BE GRADE B450C QUALITY (HOT-ROLLED, RIBBED BARS OF WELDABLE QUALITY AND WITH HIGH DUCTILITY) ACCORDING TO EN 10080
STAINLESS STEEL SHALL BE ACCORDING TO AISI 316L
WHERE A REINFORCEMENT BAR INTERSECTS WITH A PRESTRESSING LOOP THE REINFORCEMENT BAR SHALL BE DEVIATED THE GAP IN THE REINFORCEMENT BAR SHALL BE CLOSED BY A NEW BAR OF SUFFICEINT LENGTH (INCLUDING LENGTH OF CUT AND LAP LENGTH) PLACED IN DIRECT VICINITY OF THE CUT REINFORCEMENT BAR

## LENGTHS

32+32+32 1790	40+40 18	32+32 1460	30+30 1370	40 1290	36 1170	32 1040	30 9,	28 9	25 8	20 6.	BAR DIAMETER	CONCRETE C60 GRADE	CONCRETE TYPE
90	1870	60	70	90	70	40	980	900	810	650		C60/75	1
2750	2800	2250	2100	2000	1800	1600	1500	1400	1250	990		C30/37	2
2220	2300	1820	1700	1610	1440	1280	1200	1130	1000	810	LAP LENGTHS L	C40/50	3
						1600	1500	1400	1250	990	HS L (mm)	C30/37	7
						1500	1400	1300	1100	900		C35/45	00
						1280	1200	1130	1000	810		C40/50	9

### EL FOR BAR BENDING (mm):

<u>`</u>	36	32	30	28	25	20	DIAMETER   R
280	252	224	260	196	175	140	REINFORCEMENT
280	252	224	260	196	175	140	HOOK BENDS AND LOOPS

DISTRIBUTION OF LAPS

UNLESS OTHERWISE SHOWN IN THE DRAWINGS THE FOLLOWING APPLIES:

1. IN GENERAL LAPS SHALL BE DISTRIBUTED SO THAT MAXIMUM 50% OF THE BARS SAME CROSS SECTION.

2. FOR TWO ADJACENT LAPS THE DISTANCE FROM CENTER TO CENTER OF THE SPLIEGUINALENT TO THE LAP LENGHT.

THE

SPLICES

POST—TENSIONING TENDONS

EACH TENDON SHALL CONSIST OF THE SPECIFED NUMBE
COMPLYING WITH EN 10138—3.

EACH STRAND SHALL HAVE THE FOLLOWING PROPERTIES: THE SPECIFED NUMBER OF 15.7mm STRESS

DIMENSION	15.7mm (0.6°)
NOMINAL AREA	150mm <sup>2</sup>
YIELD STRENGTH	1670MPa
TENSILE STRENGTH	1860MPa
MINI DDENKING LOAD	17/102.0

HE DUCTS SHALL BE PLACED WITH A TOLERANCE OF -10/+10mm ANCHORS SHALL BE AN APPROVED PROPRIETARY TYPE. THE REAR OF THE ANCHOR SHALL BE PROVIDED WITH A M10 TAPPED HOLE AT LEAST 15mm DEEP TO ALLOW FOR AN ELECTRICAL EARTHING CONNECTION WITHIN THE CONCRETE.

"HE TENDONS SHALL BE POST-TENSIONED WITH A FORCE EQUAL TO 210kN FOR EACH STRAND.

"LOOPED TENDONS SHALL BE POST-TENSIONED SIMULTANEOUSLY FROM BOTH ENDS.

"AT TENSIONING OF TENDONS THE CONCRETE IN THE PROXIMITY OF THE ANCHORAGE SHALL HAVE A COMPINITY OF MIN. 32/39MPa.

"ENDONS IN ANCHOR BLOCKS SHALL BE GROUTED AFTER POST-TENSIONING USING A THIXOTROPIC GROUT COMPINENSIVE STRENGTH AS SPECIFIED FOR THE CONCRETE. TENDONS IN TOWER FOUNDATIONS SHALL BE

T TYPE WITH A UNBONDED.

ΒE *W* 

POST—TENSIONING BARS

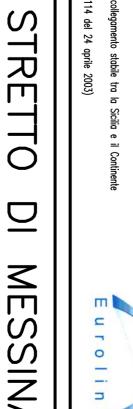
BARS FOR TOWER FOUNDATION CONNECTION BEAM MODULUS OF ELASTICITY 170000 MPa

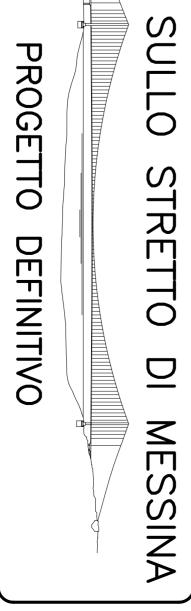
ULTIMATE TENSILE STRENGTH 1030 MPa

O.I % PROOF STRESS 835 MPa



PONTE





Dott. Ing. E. Pagani  Ordine Ingegneri Milano  n. 15408	COWI Ing. E.M. Veje	IL PROGETTISTA	
	Project Manager (Ing. P.P. Marcheselli)	IL CONTRAENTE GENERALE	
	Direttore Generale e RUP Validazione (Ing. G. Fiammenghi)	STRETTO DI MESSINA	
	Amministratore Delegato (Dott. P. Ciucci)	STRETTO DI MESSINA	

OPERA D'ATTRAVERSAMENTO
SOTTOSTRUTTURE
ELEMENTI DI CARATTERE GENERALE
GENERALE
NOTE GENERALI – INGLESE PF0002\_F0

FO 20-06-2011 EMISSIONE FINALE	DESCRIZIONE	CODICE C G 1 0 0 0 P S X D P S T 0 0 0 0 0 0
LHJ/ABI	REDATTO	0 0
	VERIFICATO	0 0 0 0 0 2 FO SCALA
ABI	APPROVATO	O SCALA: